Recombinant Human MHC class I polypeptide-related sequence A

Cat. No. MICA-07H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human MIC-A produced in E.coli is protein with 320 amino acid residues containing the extracellular domain of mature human MICA (amino acid residues Ala23 – Gln308) and having a molecular mass of approximately 36 kDa.
Species	Human
Source	E.coli
Description	MIC-A (MHC class I chain-related gene A) is a transmembrane glycoprotein that functions as a ligand for human NKG2D. A closely related protein, MICB, shares 85% amino acid identity with MICA. These proteins are distantly related to the MHC class I proteins. They possess three extracellular Ig-like domains, but they have no capacity to bind peptide or interact with β2-microglobulin. The genes encoding these proteins are found within the Major Histocompatibility Complex on human chromosome 6. The MICA locus is highly polymorphic with more than 50 recognized human alleles. MICA is absent from most cells but is frequently expressed in epithelial tumors and can be induced by bacterial and viral infections. MICA is a ligand for human NKG2D, an activating receptor expressed on NK cells, NKT cells, γδ T cells, and CD8+ αβ T cells. Recognition of MICA by NKG2D results in the activation of cytolytic activity and/or cytokine production by these effector cells. MICA recognition is involved in tumor surveillance, viral infections, and autoimmune diseases.
Purity	>95% by SDS-PAGE and HPLC analyses.

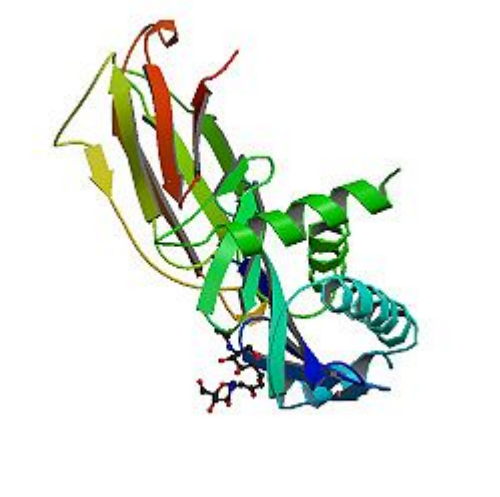
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Formulation	Lyophilized from a 0.2μm filtered concentrated (1mg/ml) solution in PBS, pH 7.4.
Specific Activity	Measured by its ability to bind MICA antibody in a ELISA.
Endotoxin	Less than 1EU/μg of rHuMIC-A as determined by LAL method.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at <-20°C. Further dilutions should be made in appropriate buffered solutions.
Storage	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

GENE INFORMATION

Gene Name	MICA MHC class I polypeptide-related sequence A [Homo sapiens]
Synonyms	MICA; MHC class I polypeptide-related sequence A; FLJ60820; PERB11.1; MGC111087; MICA; MHC class I polypeptide-related sequence A; OTTHUMP00000029088; OTTHUMP00000035033; OTTHUMP00000035034; HLA class I antigen; Stress inducible class I homolog; MHC class I chain-related gene A protein; Stress inducible class I homolog
Gene ID	4276

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mRNA Refseq	NM_000247
Protein Refseq	NP_000238
MIM	600169
UniProt ID	Q29983
Chromosome Location	6p21.33
Pathway	Natural killer cell mediated cytotoxicity; Signaling in Immune system
Function	NOT beta-2-microglobulin binding; natural killer cell lectin-like receptor binding
PDBrendering based on 1b3j.Available structures:1b3j,1hyr	

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